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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GOPAL B. AVINASH and PINAKI GHOSH

Appeal 2009-002249
Application 10/064,873
Technology Center 2600

Decided: March 24, 2010

Before ROBERT E. NAPPI, JOHN C. MARTIN, and
BRADLEY W. BAUMEISTER, *Administrative Patent Judges*.

BAUMEISTER, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 33-48 (Br. 2). Claims 1-32 have been canceled (*id.*). We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

STATEMENT OF CASE

Appellants' invention relates to methods for enhancing grayscale and color images that contain annotations (Spec. ¶ [0001]). Examples of the annotated digital pictures include medical diagnostic imaging pictures that have had annotations "burnt in by overlaying an arbitrary intensity value of text on the image. When such images are processed using image processing algorithms, the resulting output image will not maintain the annotations in their pristine form" (Spec. ¶ [0002]). Appellants' computer algorithm, then, allows one to improve digitized images with available methods for adjusting brightness and contrast without distorting or degrading the appearance of any annotations that have been burnt into the image (Spec. ¶¶ [0003-0004]).

Independent method claim 33 is illustrative.[1] It first recites three conventional steps of gathering and displaying grayscale image data. Following these three steps of pre-solution activity, the claim then recites three further steps of processing this data according to Appellants' mathematical algorithm. The specific claim language reads as follows:

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[1] Appellants argue claims 33-44 together as a first group and separately argue claims 45-48 as a second group. *See* Br. 7-9. Accordingly, we select independent claims 33 and 45 as representative of the respective groups. *See* 37 C.F.R. § 41.37(c)(1)(vii).

> 33. A method for processing annotated images comprising the following steps:
>
> acquiring data representing a grayscale image;
>
> adding data representing a textual annotation to said acquired grayscale image data;
>
> displaying an annotated grayscale image comprising said grayscale image with said textual annotation overlaid thereon;
>
> storing data representing said annotated grayscale image in the data format used for said displaying step;
>
> removing data representing said textual annotation from said stored data representing said annotated grayscale image to derive data representing an unannotated grayscale image;
>
> processing said data representing said unannotated grayscale image using an algorithm to derive data representing a processed grayscale image; and
>
> merging said removed data representing said textual annotation and said data representing said processed grayscale image, said merged data representing an annotated processed grayscale image.

The Examiner relies on the following prior art references to show unpatentability:

Bloomberg	US 5,065,437	Nov. 12, 1991
Ikeshoji	US 5,761,339	June 2, 1998
MacLeod	US 5,778,092	July 7, 1998

Appellants' Admitted Prior Art

RAFAEL C. GONZALES & RICHARD E. WOODS, DIGITAL IMAGE PROCESSING 221-49 (Addison-Wesley Publ'g Co. 1992).

Claim 33 stands rejected under 35 U.S.C. § 103(a) as obvious over Ikeshoji in view of Appellants' Admitted Prior Art.

Claims 34-44 stand rejected under 35 U.S.C. § 103(a) as obvious over Ikeshoji in view of Appellants' Admitted Prior Art, MacLeod, and Bloomberg.

Claims 45-48 stand rejected under 35 U.S.C. § 103(a) as obvious over Ikeshoji in view of Appellants' Admitted Prior Art, MacLeod, Bloomberg, and Gonzales.

The Examiner has withdrawn the rejection of claims 33-48 under 35 U.S.C. § 112, ¶ 1 (Ans. 3).

ISSUES

I. Does the cited prior art collectively teach or suggest a method for processing annotated grayscale images as recited in claim 33?

II. Does the cited prior art collectively teach or suggest a method for processing annotated HSV color images as recited in claim 45?

ANALYSIS

I.

The Examiner finds that Ikeshoji discloses acquiring an annotated grayscale image, removing data representing textual annotations to derive an unannotated grayscale image, processing the data representing the unannotated grayscale image to remove stains, merging the removed data representing the textual annotations and the data representing the processed grayscale image, and thereby representing an annotated processed grayscale image (Ans. 5-6).[2] The Examiner further finds that Ikeshoji does not expressly teach the steps by which the annotations are initially added to the grayscale image (Ans. 4-5), but that Appellants admit that it was known how

[2] Rather than repeat the Examiner's findings and Appellants' arguments in full, we refer to the following documents throughout this opinion for their respective details: (1) the Appeal Brief ("Br.") filed September 14, 2007; and (2) the Examiner's Answer ("Ans.") filed November 27, 2007.

to add data representing a textual annotation and to display the annotated grayscale image with the textual annotation overlaid thereon (*id.*). The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to have annotated grayscale images such as medical diagnostic images by burning in the annotations because this process was a conventionally known method of annotating images (Ans. 5). As such, the Examiner has established a prima facie case of obviousness, shifting the burden of rebuttal to Appellants.

Appellants assert that the combination of Ikeshoji and Appellants' Admitted Prior Art does not render claim 33 obvious for two reasons (Br. 7-8). First, "Ikeshoji . . . is intended for use in removing stains or scratches from a photograph, picture or document or characters and/or figures . . . Ikeshoji neither discloses nor suggests that annotations are added to the image acquired by the scanner before the scanner-acquired image undergoes electronic processing" (*id.*). As such, "it would not have been obvious to apply Ikeshoji's technique to situations where one desires to improve the contrast or brightness of an acquired image that had annotations added to it after image acquisition" (Br. 8).

This argument is not persuasive. Claim 33 does not recite any step of improving the contrast or brightness. Rather, the claim more broadly recites "processing said data representing said unannotated grayscale image using an algorithm to derive data representing a processed grayscale image." We see no reason that would prevent one of ordinary skill from using the teachings of Ikeshoji for at least the purpose of removing stains or scratches from scanner-acquired images that have burnt-in annotations.

It is well settled that "[d]uring patent examination the pending claims must be interpreted as broadly as their terms reasonably allow." *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989). The broadest reasonable interpretation of the claims must be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999). "'[E]ach claim does not necessarily cover every feature disclosed in the specification. When the claim addresses only some of the features disclosed in the specification, it is improper to limit the claim to other, unclaimed features.'" *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 689 (Fed. Cir. 2008) (quoting *Ventana Med. Sys., Inc. v. Biogenex Labs., Inc.*, 473 F.3d 1173, 1181 (Fed. Cir. 2006)); *see also Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1331 (Fed. Cir. 2004) ("[P]atentees [are] not required to include within each of their claims all of [the] advantages or features described as significant or important in the written description.").

Appellants' second argument regarding the rejection of claim 33 is that "it would not [have been] obvious to transfer any teaching of Ikeshoji, which deals with enhancing physical documents by converting them into electronic images, to the field of electronically annotated electronic images not derived by scanning a physical document" (Br. 8). Appellants' basis for this conclusion is

> Ikeshoji merely teaches that characters and/or figures in an image can be separated from a background so that the background can then be electronically processed to remove stains and scratches . . . . In contrast, the object of Appellants' process is to enhance an annotated image without altering annotations burnt into the image.

(Br. 8).

This argument is not persuasive because Appellants have merely stated differences between Ikeshoji and what Appellants have acknowledged was known. This is not the same as explaining why combining these teachings would have been nonobvious. In fact, Appellants have provided no reason as to *why* combining of these teachings would be improper. Appellants' assertion that it would not have been obvious to transfer any of Ikeshoji's teachings, then, is merely an unsupported conclusion.

Accordingly, Appellants have not persuaded us that the Examiner erred in finding that the cited prior art collectively teaches or suggests the claimed method for processing annotated grayscale images. That is, Appellants have not persuaded us of error in the Examiner's obviousness rejection of representative claim 33 under 35 U.S.C. § 103. We will therefore sustain the Examiner's decision rejecting that claim.

With respect to the remaining rejections of claims 34-44, Appellants provide no patentability arguments directed to the additional references of MacLeod and Bloomberg. Rather, Appellants repeat the arguments directed to claim 33 and apply them to the remaining rejection (Br. 8-9). For the reasons discussed above, then, we also sustain the Examiner's decision rejecting claims 34-44.

II.

Independent claim 45 is similar to independent claim 33, reciting a method of first gathering and displaying hue, saturation, and value (HSV) color image data (as opposed to grayscale image data), and then reciting three further steps of processing this HSV color data according to Appellants' mathematical algorithm. The Examiner found that Gonzalez evidences that (1) it would have been obvious to extend the grayscale

processing techniques to color images; and (2) it was well known how to convert red, green, blue (RGB) model to hue, saturation, intensity (HSI)[3] model and vice versa. As such, the Examiner has established a prima facie showing of obviousness, shifting the burden of rebuttal to Appellants.

Appellants, in turn, argue that the Examiner's rejection of claim 45, as well as dependent claims 46-48, is improper for the same reasons set forth in relation to claim 33 and also for additional reasons (Br. 9). Regarding the additional reasons, Appellants acknowledge that Ikeshoji teaches a process for removing colored stains, but argue for the claim's allowability because (1) Ikeshoji fails to disclose or suggest "removing hue and saturation data from a color image, processing the remaining brightness component, and then restoring the hue and saturation components"; and (2) since Ikeshoji does not teach or suggest enhancing the unstained portions of a color image, it would not have been obvious to combine the color processing techniques disclosed in Gonzalez (*id.*).

These arguments are not persuasive. Regarding the first argument, Appellants only argue that claim limitations are absent from the primary reference, Ikeshoji. However, the Examiner acknowledged this fact and relied upon Gonzales for this missing step. Appellants do not contest that Gonzalez teaches all of the limitations of claim 45 that Ikeshoji lacks.[4] As such, Appellants essentially argue that it would not have been obvious to

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[3] We understand the term "HSI" used by Gonzales to be synonymous with Appellants' term "HSV."

[4] We understand the Examiner's additional reliance on MacLeod and Bloomberg to be attributable to the fact that the Examiner has lumped together the rejection of claim 45 with those of dependent claims 46-48, and that these additional references only have relevance to the dependent claims.

combine the teachings of Gonzalez with Ikeshoji merely because Gonzalez's teachings are not disclosed in Ikeshoji. We are not aware of any legal support for this position.

Appellants' second argument is not persuasive because it is immaterial whether Ikeshoji, or Gonzalez for that matter, teaches or suggests enhancing the *unstained* portions of a color image. Claim 45 is not written so narrowly so as to require this. Rather, the relevant portion of claim 45 recites "processing said data representing said unannotated brightness component image using an algorithm to derive data representing a processed brightness component image." This claim language is broad enough to read on processing the unannotated image in order to remove the colored stains, with the "processed image" being one in which the stain has been removed. We understand this to be the Examiner's position, and Appellants have not argued why the combined prior art fails to disclose such a process.

Accordingly, Appellants have not persuaded us that the Examiner erred in finding that the cited prior art collectively teaches or suggests the claimed method for processing annotated HSV color images. That is, Appellants have not persuaded us of error in the Examiner's obviousness rejection of representative claim 45 under 35 U.S.C. § 103. We will therefore sustain the Examiner's decision rejecting that claim and claims 46-48, which depend therefrom.

DECISION

The Examiner's decision rejecting claims 33-48 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

babc

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